

REMARKS

Claims 1-6 are pending in this application. Claim 6 has been amended incorporating all of the limitations from the base Claim 1.

Claims 1-2, and 5 are Rejected Under 35 U.S.C. §103(a)

Claims 1, 2, and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over International Publication Number WO 00/70379 to Chen et al. and further in view of U.S. Patent 6,204,304 to Houlihan et al. and U.S. Patent 6,321,008 B1 to Riant et al. The Examiner stated that

Chen et al. Discloses a filter (10) primarily made up of silica with a fiber grating (12), where the grating area is covered with a layer (20) with an index of refraction greater than the cladding layer (18). But Chen et al. Fails to specifically disclose the type of grating to be a slanted Bragg Fiber grating and that the layer and the cladding are attached by covalent bonds, the layer to be a monomeric and/or oligomeric material or that the layer is made of a material that contains organic groups. However, Houlihan et al. Discloses fiber-coating materials for optical fiber gratings, which include monomeric and/or oligomeric material, as well as organic materials consisting of mainly C or H atoms that are covalently bonded. Furthermore Riant et al. Discloses an optical waveguide filter with an angled Bragg grating. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a slanted Bragg grating. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a layer made of a monomeric and/or oligomeric material or that the layer is made of a material that contains organic groups which are covalently bonded.

Claim 1 recites that

Fiber grating filter optical waveguide device, comprising an optical fiber with an optical filter, both consisting essentially of silica, whereby said optical filter has an area with a grating region, wherein the fiber grating filter is a slanted Bragg grating filter and said area with a grating region is covered with a layer comprising a material having a refractive index which is the same or higher than the refractive index of the material of the optical fiber cladding and the material is attached by covalent bonds of the material. (Emphasis Added).

In contrast, the purpose of the Chen et al. reference discloses an amplitude tunable filter for improving tuning capabilities. (Page 2, lines 22-25) (Emphasis Added). The resulting invention in Chen et al. provides the ability to increase or decrease the overall amplitudes of attenuated spectral bands without significantly altering the central wavelengths of the attenuated bands. (Page 2, lines 24-27).

Different materials are used for a surrounding cladding 18 and the overall cladding 20. The surrounding cladding 18 is formed using primarily of silica (Page 6, lines 8-10). The overcladding 20 is made of hybrid sol gel material in a solid form, combining organic and inorganic compounds. (Page 7, lines 3-7) (Emphasis Added). An objective in the selection of the overcladding 20 is preferably sensitive to temperature changes and exhibits a change in refractive index proportional to changes in temperature. (Page 6, line 36 to Page 7, line 3) (Emphasis Added).

In addition, the Chen et al. reference requires an external controller for adjusting the refractive index of the overcladding 20 by incorporating aryltrialkoxysilanes or aryltrifluorosilanes, which can be bound in increasing proportion of the silicon for raising the refractive index. (Page 7, lines 19 – 23, and Claim 1 in Chen et al.) (Emphasis Added).

Claim 1 recites a “[f]iber grating filter optical waveguide device, comprising an optical fiber with an optical filter, both consisting essentially of silica, whereby said optical filter has an area with a grating region, wherein the fiber grating filter is a slanted Bragg grating filter and said area with a grating region is covered with a layer comprising a material having a refractive index which is the same or higher than the refractive index of the material of the optical fiber cladding and the material is attached by covalent bonds of the material. (Emphasis Added).

Nowhere does the Chen et al. reference disclose “both consisting essentially of silica” and “a layer comprising a material having a refractive index which is the same or higher than the refractive index of the material of the optical fiber cladding”. In fact, the Chen et al. reference teaches away from Applicants’ invention by disclosing the use of a different material for the surrounding cladding 18 (silica) and the overcladding 20 (hybrid sol gel) (Emphasis Added). The Federal Circuit held that [i]n general, a reference will teach away if it suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the applicant. In re Gurley, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131-32 (Fed. Cir. 1994) *citing* United States v. Adams, 383 U.S. 39, 52, 86 S. Ct. 708, 714, 15 L. Ed. 2d 572, 148 USPQ 479, 484 (1966) ; W.L. Gore & Assoc., Inc. v. Garlock, Inc., 721 F.2d 1540, 1550-51, 220 USPQ 303, 311 (Fed. Cir. 1983) , *cert. denied*, 469 U.S. 851, 105 S. Ct. 172, 83 L. Ed. 2d 107 (1984) ; In re Sponnoble, 405 F.2d 578, 587, 160 USPQ 237, 244 (CCPA 1969) ; In re Caldwell, 319 F.2d 254, 256, 138 USPQ 243, 245 (CCPA 1963).

It is therefore respectfully submitted that Claim 1 is patentable over the cited reference of Chen et al. in view of Houlihan et al. and Riant et al.

Claim 2 recites the “[d]evice according to claim 1, wherein the material is made from a monomeric and/or oligomeric precursor material”. Claim 2 depends on Claim 1 and is patentable over the cited references of Chen et al. in view of Houlihan et al. for at least the same reasons described for Claim 1. Moreover, Applicants contend that there is no suggestion to combine, explicitly or impliedly, in using monomers and oligomeric in Houlihan in the context of increasing or decreasing the tuning of the overcladding 20 in Chen et al. The Federal Circuit held that “we have been guided by the well-suited principles that the claimed invention must be considered as a whole, multiple cited prior art references must suggest the

desirability of being combined, and the references must be viewed without the benefit of hindsight afforded by the disclosure”. In re Paulsen, 30 F.3d 1475, 1482, 31 USPQ2d 1671, 1676 (Fed. Cir. 1994) *citing* Hodosh v. Block DrugCo., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir.), *cert. denied*, 479 U.S. 827, 107 5. Ct. 106, 93 L. Ed. 2d 55 (1986). (Emphasis Added). Applicants respectfully submit that there is no suggestion to combine the Chen et al. with Houlihan et al. and therefore Claim 2 is patentable over the cited references.

Claim 5 depends on Claim 1 and is patentable over the cited references of Chen et al. in view of Houlihan et al. and Riant et al. for at least the same reasons described for Claim 1.

Claims 3-5 are Rejected Under 35 U.S.C. §103(a)

Claims 3-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over International Publication Number WO 00/70379 to Chen et al. And further in view of U.S. Patent 6,204,304 B1 to Houlihan et al. and U.S. Patent 6,321,008 B1 to Riant et al. and further view of U.S. Patent 5,991,493 to Dawes et al. The Examiner stated that

Chen et al, Houlihan et al. and Riant et al. discloses all discussed above, but fail to disclose the layer to be of a hydrolysable material. However, Dawes et al. discloses an optical bonding material. More specifically, Dawes et al. discloses a hydrolyzed bonding composition to better connect optical components. Dawes et al. also discloses that an organic component can be incorporated in the hydrolysis material to aid in the bonding process or to add Ti to the bonding composition. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a hydrolysable material or an organic material or of Ti for the layer.

Claims 3-5 depend on Claim 1 and is patentable over the cited references of Chen et al. in view of Houlihan et al. and Riant et al and in further view of Dawes et al. for at least the same reasons described for Claim 1.

Claim 6 is Rejected Under 35 U.S.C. §103(a)

Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over International Publication Number WO 00/70379 to Chen et al. And further in view of U.S. Patent 6,204,304 B1 to Houlihan et al. and U.S. Patent 6,321,008 B1 to Riant et al. and further view of U.S. Patent 6,427,041 B1 to Strasser et al. The Examiner stated that

Chen et al., Houlihan et al. and Riant et al. discloses all discussed above, but fail to disclose a core having a lower photosensitivity with respect to the outer region. However, Strasser et al discloses a titled Bragg grating fiber where the core is doped with a non-photosensitive dopant and the cladding is doped with a photosensitive dopant. Due to the doping materials, the cladding would have a higher photosensitivity than the core. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a core with a lower photosensitivity than the outer region.


Claim 6 is an independent claim and including similar limitations as Claim 1 that by reciting that “[f]iber grating filter optical waveguide device, comprising an optical fiber with an optical filter, both consisting essentially of silica, whereby said optical filter has an area with a grating region, wherein the fiber grating filter is a slanted Bragg grating filter and said area with a grating region is covered with a layer comprising a material having a refractive index which is the same or higher than the refractive index of the material of the optical fiber cladding and the material is attached by covalent bonds of the material, wherein the optical fiber has a core region and an outer region, whereby the core region displays a lower photosensitivity with respect to the outer region.

Conclusion

Claims 1-6 are pending in this application. In view of the amendments to the claims and the above remarks, Applicants respectfully request allowance of the pending Claims 1-6. If the Examiner's action is other than allowance, the Examiner is invited to telephone Applicants' attorney at the number noted below.

Respectfully submitted,

December 6, 2003
Date


Peter C. Su
Attorney for Applicants
Registration No. 43,939

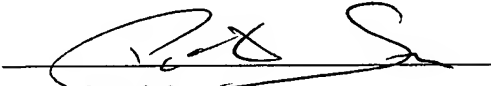
Customer No: 36430

Law Offices of Peter C. Su
P. O. Box 878
Menlo Park, CA 94026-0878

Telephone: 650.280.9300
Facsimile: 650.325.0553
Email: psu@sullp.com

Certificate of Mailing Under 37 C.F.R. §1.8

I hereby certify that this paper and any items indicated as attached or included are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: BOX AMENDMENT, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.


Peter C. Su

12-6-2003
Date